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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,868	05/09/2001	Stanley W. Stephenson	82633RLO	4959

7590 02/08/2005

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EXAMINER

LIU, MING HUN

ART UNIT	PAPER NUMBER
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2675

DATE MAILED: 02/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,868

Applicant(s)

STEPHENSON ET AL.

Examiner

Ming-Hun Liu

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Allowable Subject Matter

1. The indicated allowability of claims 5-11 are withdrawn in view of the newly discovered reference(s) to US Patent 6,118,439 to Ho et al.

Claim Objections

2. Claim 5 is objected to because in limitation c) "switching structure" has insufficient antecedent basis. The claim can be clarified by changing "switching structure" to "switching mechanism."

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,118,439 to Ho et al and US Patent 6,717,561 to Pfeiffer et al.

In reference to claims 5 and 11, Ho illustrates in figures 4 and 5, an addressing structure having rows and columns of conductors arranged so that when a column and a row overlap, they define a selectable pixel or segment to be viewable or non-viewable. Ho teaches a switching mechanism (items 160 and 170; column 4, lines 32-38) operatively coupled to the addressing structure, the switching structure being operative to output either a first voltage and a second voltage. Ho teaches at least one column voltage

Art Unit: 2675

divider for each column and at least one row voltage divider for each row within the addressing structure, the row and column voltage dividers being responsive to the first and second fixed voltages to provide one of two selectable voltages for each column and one of two selectable voltages for each row (column 3, lines 1-4, "large" and "low" current voltages). Ho teaches a selection circuit operatively coupled to the switching mechanism that selects one of either the first or second voltages in accordance with a predetermined scheme (column 7, lines 61- 67) wherein the column voltage divider provides one of two voltages for each column and the row voltage divider provides one of two voltages for each row so that a particular pixel or segment (items 232, 233, 236, 222, 224, 226).

The difference between Ho's invention and the applicant's invention lies in the particular type of LCD display the driving circuit is using. Ho teaches a voltage driving circuit for a LCD display but never specifically establishes the exact type of LCD. As one skilled in the art understands, cholesteric LCD displays is a well-known type of LCD display. According to Pfeiffer's background disclosure, Cholesteric displays are commonly used in simple, low power displays (column 1, lines 22-26). Furthermore as explained by Pfeiffer cholesteric displays usually involve two or more voltage levels in order to achieve the desired display state, either reflective or transmissive (column 1, lines 32-42).

One skilled in the art understands that Ho's disclosure is or a general LCD display including cholesteric. Ho's invention could have been modified to resemble the applicant's invention, if a bistable two-toned display was desired leaving the need of only two voltage levels instead of four. It would have been obvious to reduce the number of

Art Unit: 2675

Voltage levels in Ho's invention in order to cater to the bistability requirements of a cholesteric display.

In reference to claim 6, it is apparent from the Ho's abstract and figure 4 (item 100) that the Voltage driving means is a single chip.

In reference to claim 7, Ho's invention uses a single voltage source V_{cc} (figure 7).

In reference to claim 8, Ho's invention uses a ground voltage (figure 7).

In reference to claim 9, it can be seen from figure 7 of Ho that the voltage divider uses resistors.

In reference to claim 10, Ho teaches a circuit responsive to an input signal for causing the selection of appropriate diodes to provide the appropriate voltage at a selected pixel or segment of the display (column 4; lines 7-13).

Response to Arguments

Upon further review, the Ho reference reads on the claimed invention. In order to place the invention in a better position for allowance, the claim should be amended to clearly differentiate this invention from the prior art. The claim would be bolstered by clearly establishing the voltage divider (item 70) as an individual voltage dividing circuit. "Each" is insufficient in describing the relationship between the voltage dividers and conductors. Furthermore, the claim would benefit by describing a more definitive connection relationship between the two selectable voltages and the voltage dividing circuits.

Art Unit: 2675

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488.

The examiner can normally be reached on Mon-Fri.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ming-Hun Liu


SIVATI LEFKOWITZ
PRIMARY EXAMINER